

REMARKS

Claims 13, 15-17, 20-23 and 25 stand rejected under 35 USC 103(a) over Futakuchi (U.S. Patent No. 6,308,938) in view of Melton (U.S. Patent No. 6,194,250). Applicants respectfully traverse this rejection.

Claim 13 recites “a substrate having a plurality of conductive traces;
a plurality of balls disposed on a first surface of said substrate;
a semiconductor die mounted to said substrate such that bumps of said semiconductor die are electrically connected to said plurality of conductive traces of said substrate;
an overmold material encapsulating said semiconductor die and said balls on said substrate such that portions of said balls that are disposed farthest from said substrate are exposed at an exterior of said integrated circuit package; and
a ball grid array disposed on a second surface of said substrate and in electrical connection with said conductive traces.”

Neither Futakuchi nor Melton, alone or in combination, discloses these features. Specifically, the Examiner concedes that Futakuchi does not disclose “a plurality of balls disposed on a first surface of said substrate,” instead relying on Melton. However, Melton makes no such disclosure. As shown in Figure 3 of Melton, the bumps 20 are not disposed on a substrate. The bumps 20 are disposed on the metallic leads 16 of a lead frame 22.

Furthermore, applicants respectfully submit that the Examiner has mischaracterized the molding support 38 of Melton as a substrate having a plurality of conductive traces as recited in claim 13. As detailed at least at col. 2, line 49, through col. 4, line 22, Melton discloses the formation of a microelectronic package which does not have a substrate. Melton explains that this is done to reduce the size of the package. Instead of using a substrate, Melton discloses using a removable molding support 38 during production of the package merely to support a semiconductor

die and lead frame while a polymeric precursor 21 is formed thereon. The support 38 is then removed as shown in Figure 6.

Furthermore, the bumps 20 are disposed on the leads 16, not the support 38. Accordingly, even if the support 38 was a substrate (which it is not), the bumps 20 are not disposed thereon.

Consequently, neither Futakuchi nor Melton discloses "a plurality of balls disposed on a first surface of said substrate," as recited in claim 13. Accordingly, the rejection of claim 13 should be withdrawn. Claims 15-17, 20-23 and 25 depend from allowable claim 13 and are allowable due at least to their respective dependencies.

Applicants solicit an early action allowing the claims.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, applicants petition for any required relief, including extensions of time, and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing Docket No. **618902002500**.

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